# **Resource Center**

# 30.5mm pilot DEVICES

NEMA Type 1, 3, 3R, 4, 4X, 12, 13 Automotive Standards Compliant Water Tight – Oil Tight – Dust Tight



# SIEMENS

# Siemens 30.5mm Pilot Device Resource Center

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# **Siemens 30.5mm Pilot Devices**

### **General Information**

### Features

- Octagonal Mounting Nuts
- Meets Type 1, 3, 3R, 4, 4X, 12, 13 and Automotive Standards
- Heavy Duty Rated NEMA A600/P600 Contacts
- Positive Indexing Selectors
- Bifurcated Movable Contacts
- Attractive Chrome Plating or Black Matte Finish
- Boots Not Required for Type 4
- UL Listed File # E22655
- CSA Certified File # LR6535
- Touchsafe Terminals

### Application

Siemens pilot devices and accessories are designed to provide long, trouble free service in the most demanding of industrial applications. These controls are water, oil, and dust tight and meet NEMA Type 1, 3, 3R, 4, 4X, 12, and 13 specifications.

### Rugged

Industrial control operators are of durable one piece castings. Heavy duty plastic buttons resist oils and corrosion. Silver contacts carry heavy duty ratings while standard gold flashing on contacts allows for use in low current applications.

### Flexible

Accessories modify standard push buttons, selector switches, and pilot lights. Building block construction of contact blocks makes it possible for many circuitry combinations.

### Industrial Appearance

Pilot controls add luster to panels. Chrome plating covers exposed metal parts. The black matte finish of Black-Max pilot device operators allows for an alternative look to finished panels while still offering corrosion resistance and superior ingress protection.



### Push Button Operators

The push button operator base consists of a durable, one piece casting. The base is equipped with a heavy duty actuator with a stainless steel spring, a neoprene actuator sealing ring to prevent water, oil, and dust from penetrating to the contact blocks, a neoprene gasket to seal operator mounting hole, and a chrome plated locknut.

### Mushroom Head Push Button Operators

Operator base construction is identical to the push button operator base. The actuator is molded of high impact material for either a 1% inch or  $2\frac{1}{2}$  inch diameter molded head.

### **Contact Blocks**

Contact blocks have double-break bifurcated silver contacts, with gold flashing as standard, which improves contact fidelity. Contact blocks are heavy duty rated NEMA A600/P600 and suitable for applications down to 5V/1MA solid state outputs. Molded bodies and pushers resist arcing and tracking. All units have stainless steel springs that resist corrosion and provide strong contact pressure. Captive mounting screws speed panel assembly.

### **Push-pull Operators**

Push-pull operators combine two or three functions in one unit. The maintained operator has two positions, typically pull to start, push to stop. The momentary operator with three positions provides spring return from both pull and push positions. These units are also available illuminated.

### **Two-button Maintained Operator**

Two-button maintained operator push buttons consist of two push buttons and a latching assembly. When actuated the button remains depressed and is freed only by the release operator to which it is linked. The button assembly adjusts for mounting from a  $1^{13}/_{16}$  inch to a  $2\frac{5}{6}$  inch center.





### **Transformer Type Pilot Lights**

Transformer type pilot lights are available with a 120, 240, 277, 480, or 600 Volt primary (50/60 Hertz) and a separate secondary winding which supplies reduced voltage to a miniature bayonet base 6 Volt lamp. These units are suitable for applications where vibration is present and long bulb life is desirable.

### Full Voltage Type Pilot Lights

Full voltage pilot lights are available for 6, 12, 24, 120, 277V, and 240 Volt AC and DC applications. The 240 volt pilot light is supplied with a 120 volt lamp and a voltage dropping resistor.

### LED Type Pilot Lights

LEDs (light emitting diodes) can be used in pilot lights instead of incandescent bulbs because of their extremely long life, resistance to vibration, and ambient sensitivity.

### **Selector Operators**

Selector operators have positive action indexing. Operators are available with either a short or long lever. The molded black lever is designed to accept a color insert. A white insert is provided as standard; however, eight alternative lever insert colors are available. Each operator is equipped with a cam to actuate plungers of contact blocks assembled behind the operator. Two, three, and four position operators are available with seven different cams.



# **Siemens 30.5mm Pilot Devices**

### **Technical Specifications**

Standards	UL Listed File # E22655	CSA Certifie	ed File # LR6535						
Utilization	Category NEMA	A600/P600							
Degree of Protection	52P-, 52S-, 52M- Operators		NEMA: 1, 3, 3R, 4, 4X, 12 and 13 IEC 529; IP10, IP11, IP14, IP52, IP54, and IP56						
<b>Rated Operational Curre</b>									
	NEMA A600         10 Continuous Make Amps         Amps           120V         60         6           240V         30         3           480V         15         1.5           600V         12         1.2	s k Amps	NEMA P600 - Rating Codes for D Thermal Continuous Test Current Maximum Make or Break; Current 125V 250V 301-600V	Amps 5.0					
	Total VA         7200         720		Maximum Make or Break Volt amperes at 300V or Less	138					
Contact Blocks	52BAK, -BAJ, -BAH, -BAU, -BJK 52BAR Contact blocks are suitable for appli	cations down to 5V/1	600VAC Maximum, Heavy Duty 200VAC .25 Amp, 10 Watt Maximum 200VDC .50 Amp, 10 Watt Maximum MA low voltage applications as found in PLCs.	52BAR are Class 1; Division 2 Compliant					
Pilot Light	Full Voltage Resistor Type Transformer Type	52PA4 52PA4 52PA4 52PA4	-B (6-8V), -C (12V), -D (24V), -E (120V) -N (240V) -G (120V), -H (240V), -T (277V), -J (480V), -K (600V)	120V AC/DC Maximum 240V AC/DC Maximum 600V AC Maximum, 50/60 Hz					
Push-to-test	Illuminated Push Button - Full Voltac Illuminated Push Button - Resistor Illuminated Push Button - Transform	52PA6	-B (6-8V), -D (24V) -M (120V), -N (240V) -G (120V), -H (240V), -J (480V), -K (600V)	24V AC/DC Maximum 240V AC/DC Maximum 600VAC Maximum, 50/60 Hz					
Push-pull	Illuminated Push Pull - Full Voltage Illuminated Push Pull - Transformer	52PA2(3) 52PA2(3)	-D (24V) -G (120V), -H (240V), -J (480V), -К (600V)	24V AC/DC Maximum 600VAC Maximum, 50/60 Hz					
llluminated Selector Switch	Full Voltage Transformer	52SA7 52SA7	-AD,-BD,-CD -AG, (120V), -BG (120V), -CG (120V), -BH (240V), -CH (240V)	24V AC/DC Maximum 240VAC Maximum, 50/60 Hz					
Dielectric Strength			2200V for one minute						
Mechanical Design Life	Cycles								
Vibration	Frequency 5 - 60Hz.; Disp030 inch	es, sweep 5 minutes	for a duration of 30 minutes on each axis. Not to e	exceed 5.5 G's for maximum of 1 minute.					
Push Buttons	Momentary, Non-illuminated Momentary, Illuminated Push-pull	5,000,000	Operating Cycles Operating Cycles Operating Cycles						
Selector Switches	Non-illuminated Illuminated, Key-operated		Operating Cycles Operating Cycles						
Contact Operation	Standard Contact Black Logic Reed								
Wire Gauge	#18-12 AWG								
Terminal Screw Torque	2-10 lb-in / 20 lb-in max; 8 lb-in reco	ommended							
Locknut Torque	15 ft. lbs. max								
Temperature Range	Operating Storage		8F (-35C to +70C) 5F (-40C to +85C)						

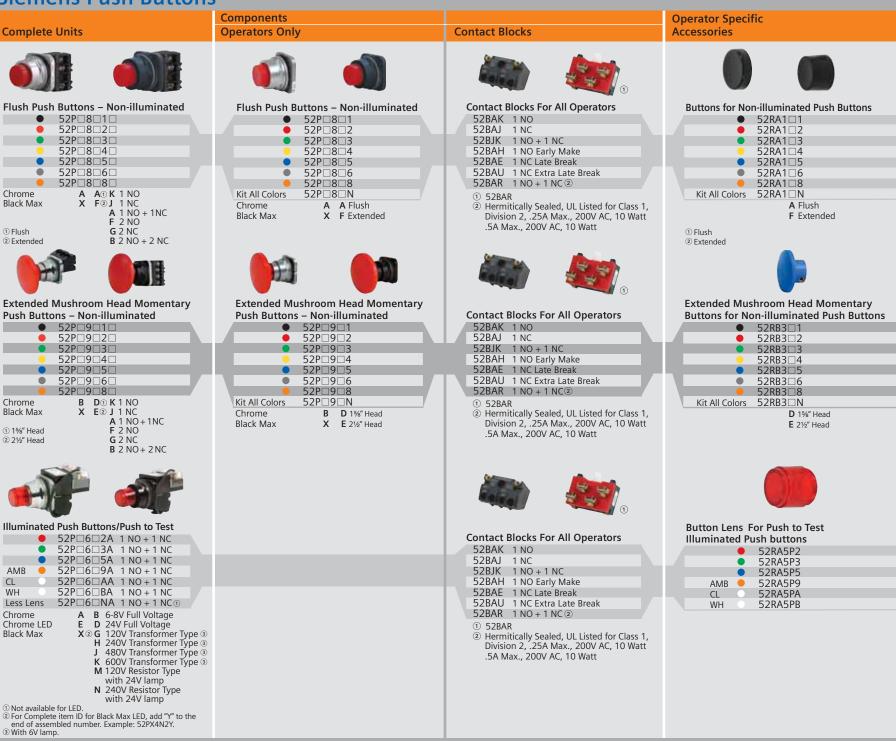
All parts are designed and manufactured of corrosion resistant material or are plated or painted as corrosion protection. All contact block contacts are gold flashed as a standard offering. Internal return spring mechanisms of operators and contact blocks of stainless steel. RoHS Compliant.

**Declaration of Conformity** — The products listed below, to which this declaration relates, are in conformity with the following standards, following the provisions of the Low Voltage Directive (LVD) (73/23/EEC), and the Electromagnetic Compatibility Directive (89/336/EEC.)

Products: Contact Blocks: Cat Nos. 52BAE, 52BAH, 52BAJ, 52BAK, 52BAR, 52BAU and 52BJK, with suffixes. Pilot Lights: Cat Nos 52P, with suffixes. Operators: Cat Nos 52S or 52P, with suffixes.

Applicable Standards: EN 60947-5-1 Low-Voltage Switchgear and controlgear. Enclosed devices meet the requirements of environmental ratings of IP10, IP11, IP14, IP52, IP54, and IP56. Open devices, when mounted as instructed, in environmental type IP10, IP11, IP14, IP52, IP54 or IP56 enclosures, maintain the environmental requirements for those enclosure types.

# **Siemens Push Buttons**



### **Push Button and Mushroom Head Momentary** Non-illuminated

### Cat. No. 52PA8, 52PX8, 52PB9,\* 52PX9\*

### Installation Instructions

Units are assembled as shown.

- 1. Assemble oil rings.
- 2. Mount unit on panel as shown in illustration.
- 3. Position trim ring or legend plate (trim ring is discarded when legend plate is used).
- 4. Position index locking ring on unit as shown in illustration.
- 5. Assemble and tighten lock nut.
- 6. Position and press on color cap.

### Push To Test Pilot Light Illuminated Push Button

### Cat. No. 52PA6, 52PE6, 52PX6

### Installation Instruction

- 1. Remove lock nut from operator. Mount operator base panel as shown and tighten to 15 ft. lbs. 2
- 2. Place lens gasket around lamp, sealing it firmly in a groove provided.
- 3. Screw lens into threaded socket of operator base and tighten by hand.

### Installing Guard Accessory (52AAGL)

- 1. To install guard accessory, replace operator lock nut with lock nut from quard accessory kit.
- 2. Screw guard on the operator.

NOTE: The guard is designed to protect the push button from accidental operation.

(1) Second oil ring and trim ring not used on BlackMax 4X devices. (2) Spacers and trim ring not used on black 4X devices.

### Notes for BlackMax 4X devices:

- The trim ring is not needed or supplied. ٠
- Only use the index locking ring when using a metal nameplate. Discard when not using a name plate or when using a plastic nameplate.
- Use locknut wrench, 52MAWB.

### IMPORTANT

THESE INSTRUCTIONS DO NOT PURPORT TO COVER ALL DETAILS OR VARIATIONS IN EQUIPMENT, NOR TO PROVIDE FOR EVERY POSSIBLE CONTINGENCY TO BE MET IN CONNECTION WITH INSTALLATION, OPERATION OR MAINTENANCE. SHOULD FURTHER INFORMATION BE DESIRED OR SHOULD PARTICULAR PROBLEMS ARISE WHICH ARE NOT COVERED SUFFICIENTLY FOR THE PURCHASER'S PURPOSES, THE MATTER SHOULD BE REFERRED TO THE LOCAL SIEMENS SALES OFFICE.

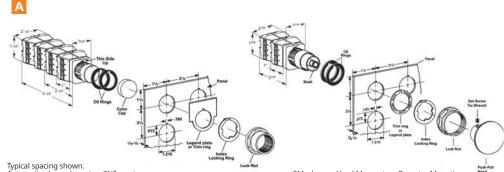
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## 🗚 WARNING

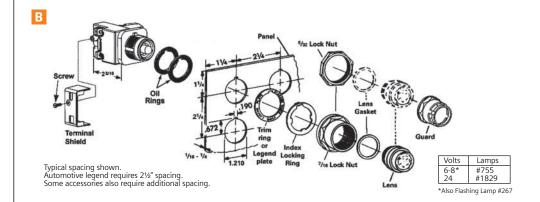
Hazardous voltage. Can cause death, serious personal injury, or property damage.

To avoid electrical shock, turn off electrical power to controls before performing installation maintenance.



Typical spacing shown. Automotive legend requires 21/2" spacing Some accessories also require additional spacing

\*Mushroom Head Momentary Operator Mounting. For Operator Dimensional Drawings See Page 1-6.



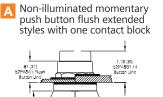
R Push to test illuminated

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27/1

Automotive

push button

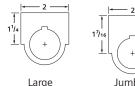


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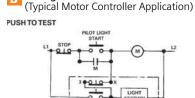
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Legend Plates

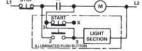






R Wiring Instructions

PUSH TO TEST I ILLUMINATED PUSH BUTTON

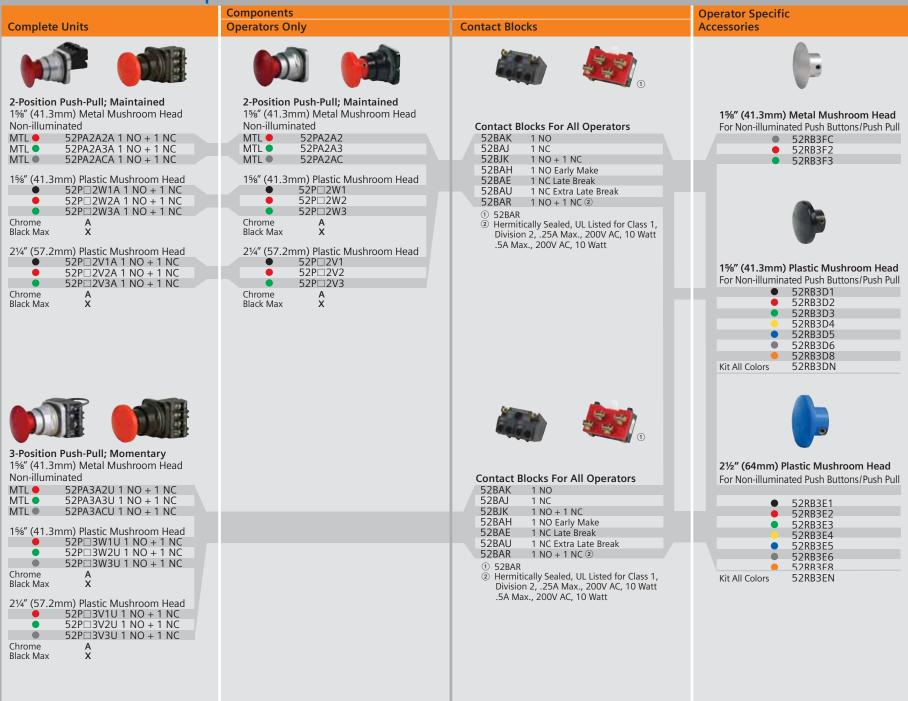


# LIGHT SECTION AC OR DC VOLTS

# SIEMENS

1-4

# **Siemens Push-Pull Operators**



### Push-Pull and Mushroom Head Momentary Operators Non-illuminated

### Momentary and Maintained

Cat. No. 52PA2, 52PA3, 52PX2, 52PX3, 52PB9, 1 52PX91

### **Installation Instructions**

- 1. Be sure the set screw is loosened. Shaft must be in the pull position.
- 2. Remove push-pull head. (Pull)
- 3. Remove locknut, locking ring and trim ring.
- 4. Mount unit in panel as shown. 2
- 5. Reassemble head, and secure with set screw.

### **Contact Operation**

### **Maintained Push-Pull**

- 1. For normally open contacts, use 52BAK contact block
- 2. For normally closed contacts, use 52BAJ contact block

### Momentary Push-Pull (Factory assembled)

- 1. For normally open contacts, the B52BAJ (normally closed) contact block is used. When mounted on this operator, the contact block becomes normally open.
- 2. For normally closed contacts, the special 52BAU contact block is used. This contact block must be mounted last.

① For devices, see Page 1-3.

Trim ring not used on black 4X devices.

### Notes for BlackMax 4X devices:

- The trim ring is not needed or supplied.
- Only use the index locking ring when using a metal nameplate. Discard when not using a name plate or when using a plastic nameplate.
- Use locknut wrench, 52MAWB.

### IMPORTANT

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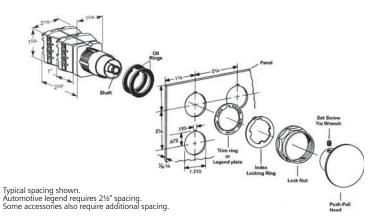
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# **WARNING**

Hazardous voltage. Can cause death, serious personal injury, or property damage.

To avoid electrical shock, turn off electrical power to controls before performing installation maintenance.



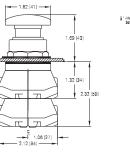
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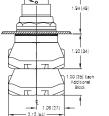
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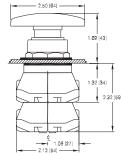
Small mushroom head a momentary push button r

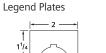
# 3 position maintained non-illuminated

d Large mushroom head momentary push button









Large

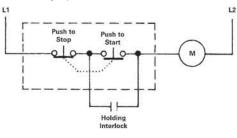


Automotive

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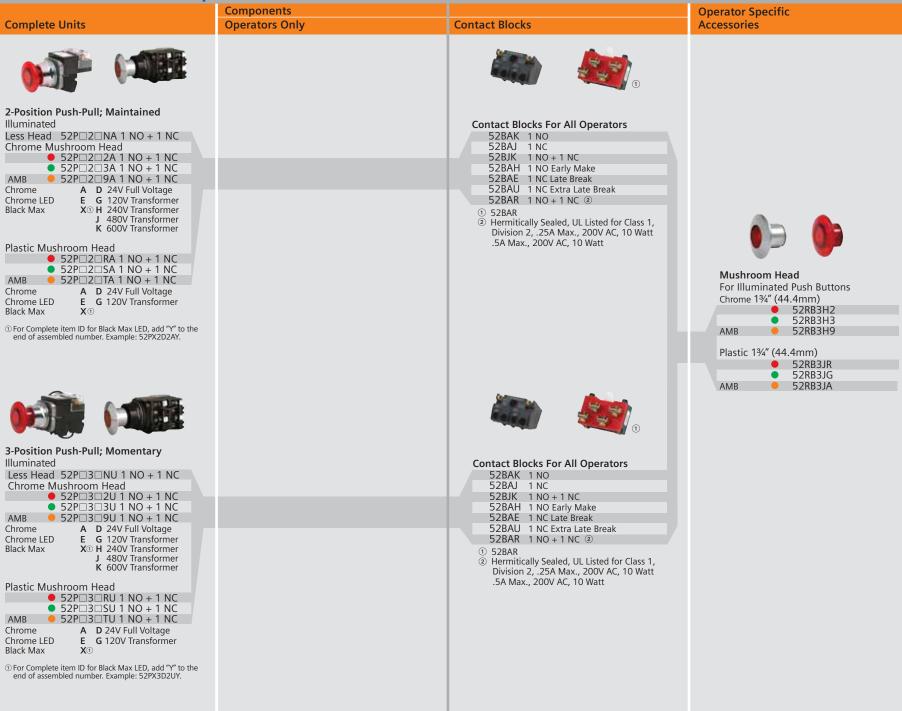
### **3 Wire Control Position**

Momentary Operator





# **Siemens Push-Pull Operators**



### Push-Pull Operator — Illuminated

Momentary and Maintained Cat. No. 52PA2, 52PA3, 52PX2, 52PX3, 52PE2, 52PE3

### Installation Instructions

- 1. Remove push-pull head (turn counter clockwise to loosen)
- 2. Remove locknut, lock ring, and trim ring.
- 3. Mount unit in panel as shown. Secure locknut to 15 ft.-lbs.
- 4. Replace push-pull head. Make sure gasket in in place.

### When adding contact blocks, observe the following:

### **Maintained Push-Pull**

- 1. For normally open contacts, use 52BAK contact block
- 2. For normally closed contacts, use 52BAJ contact block

### **Momentary Push-Pull**

- 1. For normally open contacts, the 52BAJ (normally closed) contact block is used. When mounted on this operator, the contact block becomes normally open.
- 2. For normally closed contacts, the special 52BAU contact block is used. This contact block must be mounted last.

### Notes for BlackMax 4X devices:

- The trim ring is not needed or supplied.
- Only use the index locking ring when using a metal nameplate. Discard
- when not using a name plate or when using a plastic nameplate.
- Use locknut wrench, **52MAWB.**

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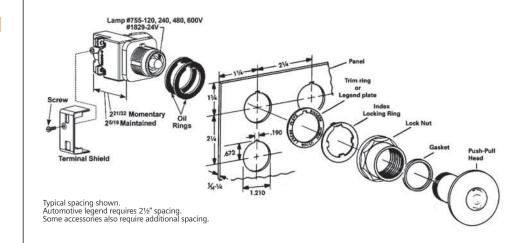
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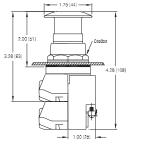
# **A**WARNING

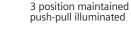
Hazardous voltage. Can cause death, serious personal injury, or property damage.

To avoid electrical shock, turn off electrical power to controls before performing installation maintenance.

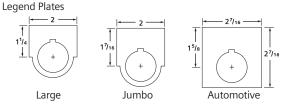


### 2 position maintained push-pull illuminated

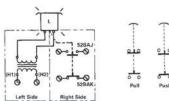




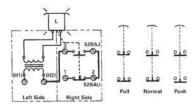
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### Wiring Contact Position Maintained 2 Position

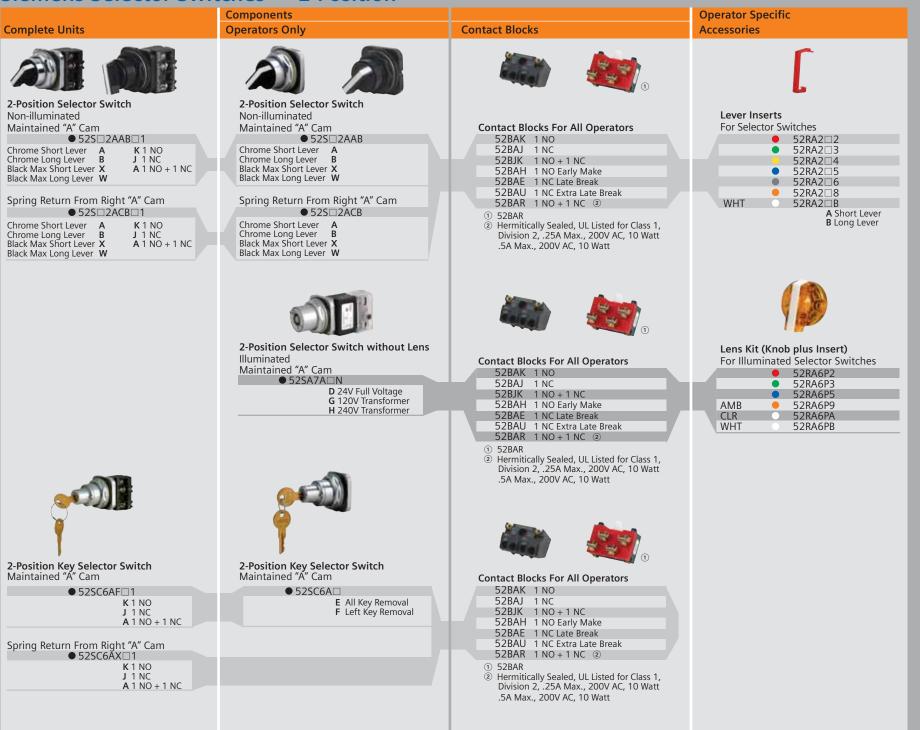


Momentary Contact 3 Position





# Siemens Selector Switches — 2-Position



### A Selector Operators — Non-illuminated

Cat. No. 52SA2, 52SB2, 52SX2, 52SW2 and 52SC6 For Contact and Cam Selection for Non-Illuminated Selector and Key Operators, see Page 1-20

### **B** Selector Operators — Illuminated

Cat. No. 52SA7

For Contact and Cam Selection for Illuminated Selector Operators, see Page 1-20

### Installation Instructions

Units are assembled as shown.

- 1. Position and press in color insert if required.
- 2. Assemble oil rings.
- 3. Mount unit on panel as shown in the illustration.
- 4. Position trim ring or legend plate (trim ring is discarded when legend plate is used).
- 5. Position index locking ring on unit as shown in illustration. 2
- 6. Assemble and tighten lock nut to 15 ft. lbs.

1 Trim ring not used on black 4X devices.

Locking ring not needed with plastic legend plates.

### Notes for BlackMax 4X devices:

- The trim ring is not needed or supplied.
- Only use the index locking ring when using a metal nameplate. Discard when not using a name plate or when using a plastic nameplate.
- Use locknut wrench, **52MAWB.**

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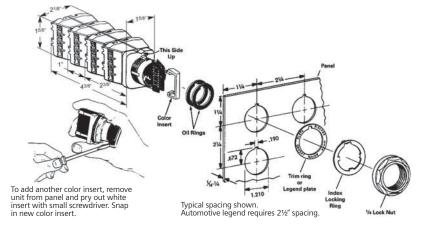
# **A**WARNING

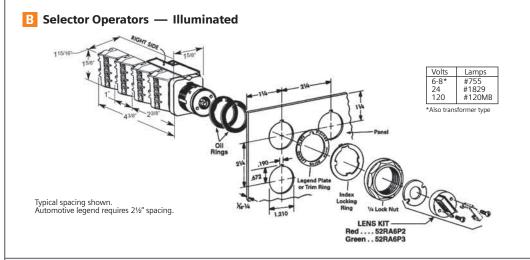
### Hazardous voltage.

Can cause death, serious personal injury, or property damage.

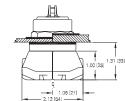
To avoid electrical shock, turn off electrical power to controls before performing installation maintenance.



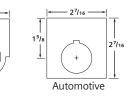




# Selector switches and keyed selector switches illuminated and non-illuminated



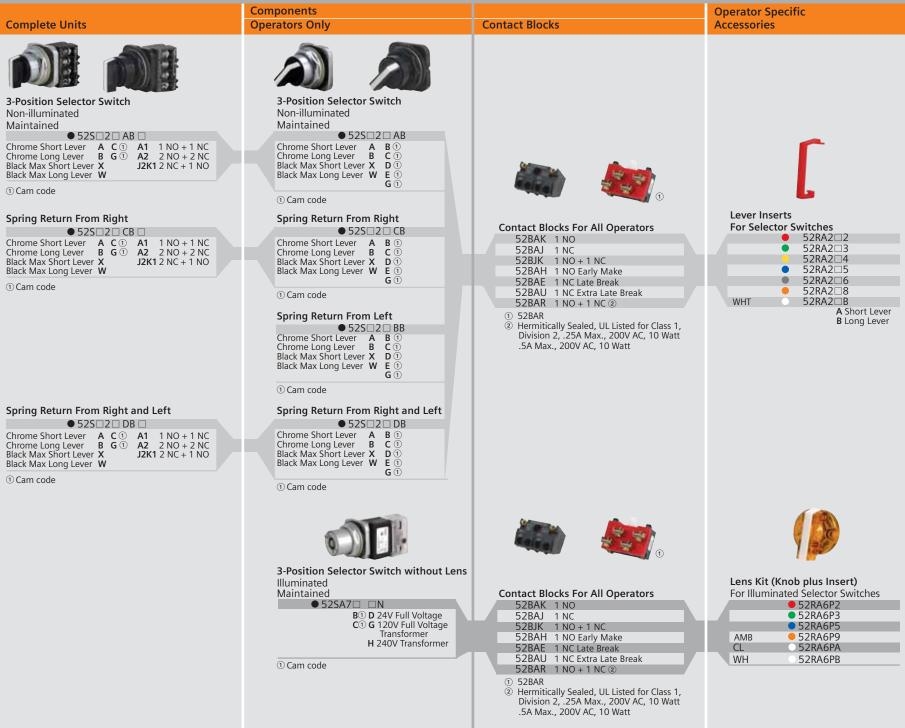
Legend Plates



# SIEMENS

Jumbo

# Siemens Selector Switches — 3-Position



### A Selector Operators — Non-illuminated

Cat. No. 52SA2, 52SB2, 52SX2, 52SW2 and 52SC6 For Contact and Cam Selection for Non-Illuminated Selector and Key Operators, see Page 1-20

### **B** Selector Operators — Illuminated

Cat. No. 52SA7

For Contact and Cam Selection for Illuminated Selector Operators, see Page 1-20

### Installation Instructions

Units are assembled as shown.

- 1. Position and press in color insert if required.
- 2. Assemble oil rings.
- 3. Mount unit on panel as shown in the illustration.
- 4. Position trim ring or legend plate (trim ring is discarded when legend plate is used).
- 5. Position index locking ring on unit as shown in illustration. 2
- 6. Assemble and tighten lock nut to 15 ft. lbs.

1 Trim ring not used on black 4X devices.

2 Locking ring not needed with plastic legend plates.

### Notes for BlackMax 4X devices:

- The trim ring is not needed or supplied.
- Only use the index locking ring when using a metal nameplate. Discard when not using a name plate or when using a plastic nameplate.
- Use locknut wrench, **52MAWB.**

### IMPORTANT

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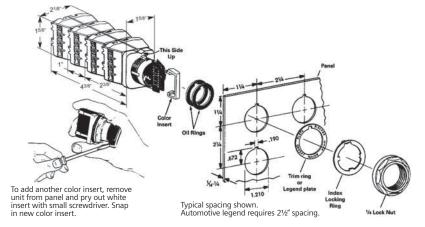
# **WARNING**

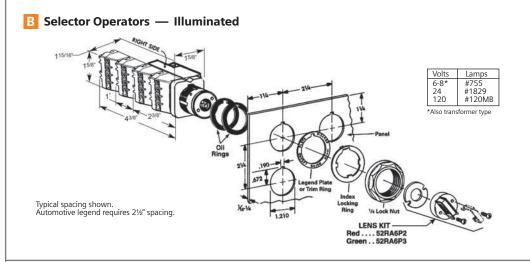
### Hazardous voltage.

Can cause death, serious personal injury, or property damage.

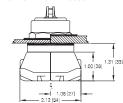
To avoid electrical shock, turn off electrical power to controls before performing installation maintenance.



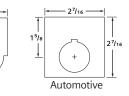




Selector switches and keyed selector switches illuminated and non-illuminated



Legend Plates



# SIEMENS

Jumbo

# Siemens Selector Switches — 3-Position

	Components		Operator Specific		
Complete Units	Operators Only	Contact Blocks	Accessories		
3-Position Key Selector Switch	3-Position Selector Switch				
Maintained • 52SC6CEA1 1 NO + 1 NC	Maintained • 52SC6 $\Box$ $\Box$				
• 52SC6CEJ2K1 1 NO + 2 NC • 52SC6CEJ2K1 1 NO + 2 NC • 52SC6CEA2 2 NO + 2 NC	■ 523C6 □ □ B① E All Key Removal C① F Left Key Removal D① G Right Key Removal E① H Center Key Removal G③ J Left and Right Key Removal K Left and Center Key Removal M Right and Center Key Removal				
Spring Return From Right	Spring Return From Right				
● 52SC6CZA1 1 NO + 1 NC ● 52SC6GZJ2K1 1 NO + 2 NC ● 52SC6CZA2 2 NO + 2 NC	<ul> <li>52SC6 □</li> <li>B<sup>①</sup> U Center Key Removal</li> <li>C<sup>①</sup> Z Left and Center</li> <li>D<sup>①</sup> Key Removal</li> <li>E<sup>①</sup></li> <li>G<sup>①</sup></li> <li>⑦ Cam Code</li> </ul> Spring Return From Left <ul> <li>52SC6 □</li> <li>B<sup>①</sup> T Center Key Removal</li> </ul>	Contact Blocks For All Operators 52BAK 1 NO 52BAJ 1 NC 52BJK 1 NO + 1 NC 52BJK 1 NO Farly Make 52BAF 1 NO Early Make 52BAE 1 NC Late Break 52BAU 1 NC Extra Late Break 52BAR 1 NO + 1 NC @ 1 52BAR 2 Hermitically Sealed, UL Listed for Class 1, Division 2, .25A Max., 200V AC, 10 Watt .5A Max., 200V AC, 10 Watt			
	© W Right Key Removal D Y Right and Center E Key Removal Cam Code G				
Spring Return From Right and Left	Spring Return From Right and Left				
• 52SC6CVA1 1 NO + 1 NC • 52SC6GVJ2K1 1 NO + 2 NC • 52SC6CVA2 2 NO + 2 NC	● 52SC6 □ □ B <sup>①</sup> V Center Key Removal C <sup>①</sup> D <sup>①</sup> E <sup>①</sup> G <sup>①</sup> ① Cam Code				

### Selector Operators — Non-illuminated

Cat. No. 52SC6 For Contact and Cam Selection for Non-Illuminated Selector and Key Operators, see Page 1-20.

### Installation Instructions

Units are assembled as shown.

- 1. Position and press in color insert if required.
- 2. Assemble oil rings.
- 3. Mount unit on panel as shown in the illustration.
- 4. Position trim ring or legend plate (trim ring is discarded when legend plate is used).
- 5. Position index locking ring on unit as shown in illustration. 2
- 6. Assemble and tighten lock nut to 15 ft. lbs.

1) Trim ring not used on black 4X devices. 2 Locking ring not needed with plastic legend plates

### Notes for BlackMax 4X devices:

- The trim ring is not needed or supplied.
- Only use the index locking ring when using a metal nameplate. Discard when not using a name plate or when using a plastic nameplate.
  Use locknut wrench, **52MAWB.**

### IMPORTANT

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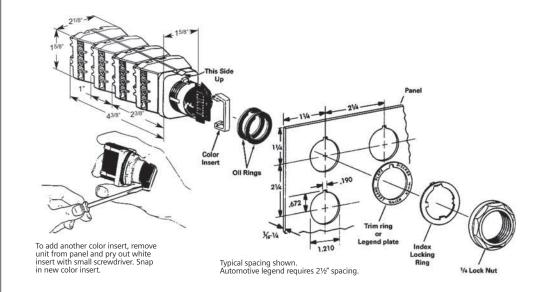


# 

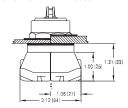
Hazardous voltage.

Can cause death, serious personal injury, or property damage.

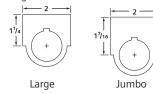
To avoid electrical shock, turn off electrical power to controls before performing installation maintenance.



Selector switches and keyed selector switches illuminated and non-illuminated



Legend Plates



27/16 7/16 Automotive



# Siemens Selector Switches — 4-Position and Specialty

	Components		Operator Specific		
Complete Units	Operators Only	Contact Blocks	Accessories		
	A-Position Selector Switch Non-illuminated Maintained • 52S 2HAB Chrome Short Lever A Chrome Long Lever B Black Max Short Lever X Black Max Long Lever W • Select/Push Operator Non-illuminated Maintained • 52SA 1 • 52SA 2 Flush 3 P 0 Raised 4 Q 0 R 0 S 0 • Cam code	Contact Blocks For All Operators 52BAK 1 NO 52BAJ 1 NC 52BJK 1 NO + 1 NC 52BAH 1 NO Early Make 52BAE 1 NC Late Make 52BAU 1 NC Extra Late Break 52BAR 1 NO + 1 NC @ 1 52BAR 9 Hermitically Sealed, UL Listed for Class 1, Division 2, .25A Max., 200V AC, 10 Watt .5A Max., 200V AC, 10 Watt			

### Selector Operators — Non-illuminated

Cat. No. 52SA2H, 52SB2H, 52SX2H, 52SW2H, 52SA3, 52SA4 For Contact and Cam Selection for Non-Illuminated Selector and Key Operators, see Page 1-20.

### Installation Instructions

Units are assembled as shown.

- 1. Position and press in color insert if required.
- 2. Assemble oil rings.
- 3. Mount unit on panel as shown in the illustration.
- 4. Position trim ring or legend plate (trim ring is discarded when legend plate is used).
- 5. Position index locking ring on unit as shown in illustration. (2)
- 6. Assemble and tighten lock nut to 15 ft. lbs.

① Trim ring not used on black 4X devices.

2 Locking ring not needed with plastic legend plates

### Notes for BlackMax 4X devices:

- The trim ring is not needed or supplied.
- Only use the index locking ring when using a metal nameplate. Discard when not using a name plate or when using a plastic nameplate.
  Use locknut wrench, **52MAWB.**

### IMPORTANT

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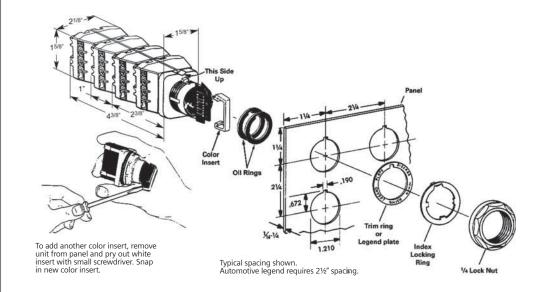


# 

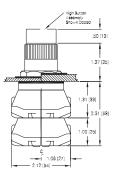
### Hazardous voltage.

Can cause death, serious personal injury, or property damage.

To avoid electrical shock, turn off electrical power to controls before performing installation maintenance.



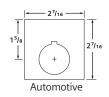
Selector Push Operator







Jumbo





# **Siemens Pilot Lights**

Complete Units	Components Operators Only	Contact Blocks	Operator Specific Accessories
Complete Units	Operators Only	Contact Blocks	Accessories
<ul> <li>Not available for LED.</li> <li>Only for Incandescent Black Max Resistor Type.</li> <li>For Complete item ID for Black Max LED, add "Y" to the end of assembled number. Example: 52PX4B2Y.</li> <li>With 6V lamp.</li> </ul>			

### **Pilot Light**

Cat. Nos. 52PA4, 52PC4, 52PE4, 52PX4, 52PY4

### **Installation Instructions**

Units are assembled as shown.

- 1. Assemble oil rings.
- 2. Mount unit on panel as shown in illustration.
- 2a. When installing a pilot light in a NEMA 4 plastic or non-corrosive enclosure, a grounding ring and two oil rings must be installed.
   See Fig. 1A for placement. (Order kit #52AL109145 which includes 1 ground ring and 1 oil ring).
- 3. Position trim ring or legend plate (trim ring is discarded when legend plate is used). ③
- 4. Position index locking ring on unit as shown in illustration.
- 5. Assemble and tighten lock nut to 15 ft. lbs.

① Trim ring not used on black 4X devices.

- (2) Locking ring not needed with plastic legend plates.
- ③ Trim ring not used on black 4X devices.

### Notes for BlackMax 4X devices:

- The trim ring is not needed or supplied.
- Only use the index locking ring when using a metal nameplate. Discard when not using a name plate or when using a plastic nameplate.
- Use locknut wrench, 52MAWB.

### IMPORTANT

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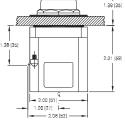
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# **A**WARNING

Hazardous voltage. Can cause death, serious personal injury, or property damage.

To avoid electrical shock, turn off electrical power to controls before performing installation maintenance.



Pilot light full voltage and transformer

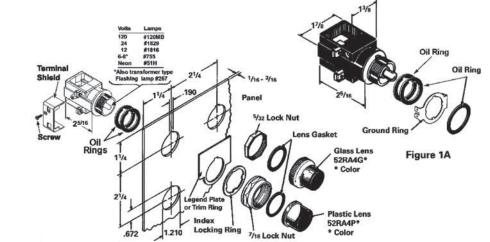


Large





SIEMENS



Typical spacing shown. Automotive legend requires 2½" spacing.

# **General Accessories**

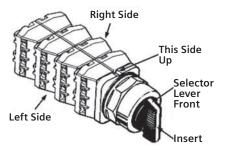
					5 · · · ·
Carrie					
Lamps Incandescent	<b>Lamps</b> LED	Lan	nps Cluster	Enclosures # of H	oles
52AABN 6V, Type 755		LED	● 52A□27		
52AABNF 6V, Flashing, Type 267	● 52A□3		● 52A□37	0 1 _	NEMA 12/13
52AACN 12V, Type 756 52AADN 24V, Type 757	<ul> <li>52A□4</li> <li>52A□5</li> </ul>		52A□47 B 6V UC		<ul> <li>NEMA 12/13 Extra Deep</li> <li>NEMA 4/4X Stainless Steel</li> </ul>
52AAENC1 120V, Type 120MB	WH 52ADB		<b>D</b> 24V UC		K NEMA 4/4X Fiberglass
52AAPN 120V, Neon		/ UC 4V UC	<b>E</b> 120V AC	0 9	
		20V AC		1 2 1 6	
Legend Plates for Class 51 and				10	0
Class 52 30mm Pilot Devices		en 👘		<b>*</b>	<b>(</b> )
52N□02 Blank 52N□02R Blank (red)	H			<b>3</b>	
52ND02B Blank (black)	Protective Boot Push Bu	tton Guard Lens G	uard Locknut (Push But	ton Locknut (Mushroom Head	Locknut (Selector Switch
52N□18 Close 52N□10 Down		AAGP) (52AA	GM) Replacement Fro	nt and Pilot Light Replacement	Replacement Front Ring
52N 16 Emerg Stop	$\cap$	The second se	Ring 52AANP)	Front Ring 52AANL)	52AANS)
52N□16R Emerg Stop (red) 52N□33 Fast-Slow	4	•			
52N□05 Forward 52N□38 For-Off-Rev	0		and a		
52N  1 For-Rev	Padlock Attachment	Padlock Attachment	Padlock Attachment	Hole Plugs Lock Wrench	Grounding Kit
52N□37 Hand-Off-Auto 52N□07 High	(52AALA)	(52AALS)	(52AALE)	(52AAHĞ) (52MAWB)	(52AL109145)
52N□30 High-Low				gn substances from interfering v	with button operation
52N□44 Hiğh-Off-Low 52N□21 In		inated push buttons; Co	ccidental operation of pus	h buttons)	
52ND13 Jog		inated push buttons; Bl			
52N□24 Joğ-Forward 52N□25 Jog-Reverse	Lens Gua	ird			
52N□08 Low			sh to test and pilot lights;		
52N□20 Lower 52N□35 Man-Auto		m Head Push button	sh to test and pilot lights; <b>Guard</b>		
52N□12 Off	52AAGM 1 5/8" (41	.3mm) mushroom head	d push button and push-p	ull operator guard; Command/52	2
52N□11 On				ull operator guard; Black Max	
52N□40 On-Off-Auto 52N□17 Open		(Push Button Replace or Command/52	ement Front King)		
52N 34 Open-Close		or Black Max			
52N□41 Open-Off-Close 52N□22 Pull to Start Out			d Pilot Light Replaceme	nt Front Ring)	
52N 47 Push to Stop/Pull to Start		or Command/52 or Black Max			
52N□19 Raise 52N□36 Raise-Lower		(Selector Switch)			
52N□14 Reset	52AANS Locknut f	or Command/52			
52N□06 Reverse 52N□23 Run		or Black Max			
52N□29 Run-Jog		Attachments h button operators			
52N□27 Safe-Run 52N□39 Slow-Off-Fast		push button operators			
52N□03 Start 52N□28 Start-Jog			and non-illuminated mush	room head operators	
52ND32 Start-Stop	52AALE Illuminate Hole Plu	d push-pull operators			
52N□04 Stop 52N□04R Stop (red)	52AAH6 Corrosion				
52N□09 Up	52ABH6 Steel, gra	/			
52N□49 Up-Down 52N□42 Up-Off-Down	52ABHS Stainless	steel			
L Large Metal (17/16" x 2")		vrench (all devices)			
A Automotive (27/16" x 2 7/16")	52AL109145 Groundin	g kit (all devices)			

### Selector and Key Operators Contact and Cam Selection

- 1. Under Selector Position, find the selector operation required (2, 3, or 4 positions).
- 2. Select the contact operation required for each selector Lever Position (X indicates when contacts are closed).
- 3. The Cam Letter column identifies the Cam of the selector operator.
- 4. Contact block must be assembled in position shown for each circuit application.
- 5. Cam D, E, or G may be ordered at the same price by changing the 6th character of the selector catalog number.
- 6. C and G Cams on spring return selectors are limited to 4 contact blocks.

Example: Selector with **D** cam 52SA2**D**AB.

### Non-Illuminated Selector and Key Operator Contact Block Mounting

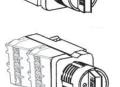


# Illuminated Selector Contact Block Mounting By Cam Type

Cam **A** Operation Contact Blocks mount on left side. Pilot light illumination assembly mounts on right side.

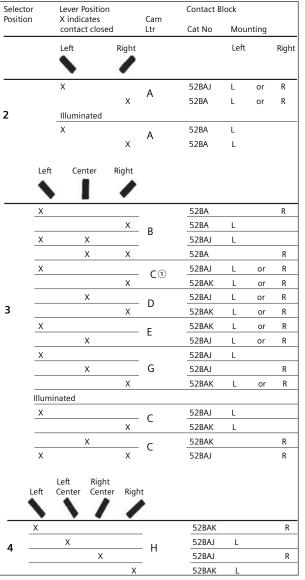
Cam **B** Operation Contact Blocks mount on right side. Pilot light illumination assembly mounts on left side.

Cam **C** Operation Contact Blocks mount on left side. Pilot light illumination assembly mounts on right side.



### Note: Cam is identified by the 6th character of Cat. No.

### Selector and Key Operators Viewed from Front



① C-Cam on spring return selectors are limited to four contact blocks.

### **Push Operator**

Selector	Lever Position X indicates								Contact Block			
Position			tes close	d			Carr Ltr.		Cat No	Mou	nting	
	Left			Righ	nt					Left		Right
				6								
	Ν	D		N	D							
	Х					_			52BAJ			R
	Х	Х				_ 0	Q		52BAJ	L		
		Х			Х	-			52BAK			R
2					Х				52BAK	L		
	Х					- P	Р		52BAJ	L	or	R
		Х		Х	Х				52BAK	L	or	R
	Х	Х		Х		- - R			52BAJ	L		
	Х			Х	Х		R		52BAJ			R
		Х							52BAK			R
					Х				52BAK	L		
	Left		Cen	ter		Rigł	nt					
3	Ν	D	Ν	D		Ν	D					
-	Х	Х							52BAJ	L		
	Х		Х	Х				-	52BAJ			R
		Х					Х	S	52BAK			R
				Х			Х		52BAK	L		

D - Button Depressed

N - Button Not Depressed



# **Complete to Components Guide**





SIEMENS